

A CHECKLIST OF THE CADDISFLIES (TRICHOPTERA) FROM WEST VIRGINIA¹

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ABSTRACT: County distributional records and dates of adult capture are provided for 176 species, representing 15 families and 60 genera, collected in West Virginia. Hydropsychidae ranked first in number of species (39), followed by Limnephilidae (30), Leptoceridae (27), Hydropsilidae (16), Rhyacophilidae (14), and Polycentropodidae (13); the other nine families accounted for 37 species. Of the species reported, 42 are new state records. The largest number of species (62) was collected in Pocahontas County.

This paper represents the first checklist of caddisflies for West Virginia. Ross (1944) listed 13 species for the state. Over the last two decades, several publications, including Applin and Tarter (1977), Hill *et al.* (1977, 1978), Hill and Tarter (1978), Tarter and Hill (1979, 1982), Nugen and Tarter (1983), Tarter and Donahoe (1989), and Glover and Tarter (1989), have contributed additional records. The collection dates and records, based on adults unless otherwise mentioned, listed in this paper are a compilation of literature records, West Virginia Department of Agriculture (WVDA) and West Virginia University (WVU) specimens, unpublished records from the National Museum of Natural History (NMNH) and Army Corps of Engineers, Huntington District (USCE), and individual collecting efforts by (Ralph Kirchner-(RFK) and Donald Tarter, West Virginia Benthological Survey, Marshall University (WVBS/MU). The purpose of this checklist is to provide a baseline for additional work on the West Virginia caddisfly fauna.

One hundred and seventy-six species of caddisflies, representing 15 families and 60 genera, were recorded for West Virginia; 42 species are new state records (*). I followed the classification of Wiggins (1977). The following families in descending order contained caddisfly species: Hydropsychidae (39), Limnephilidae (30), Leptoceridae (27), Hydropsilidae (16), Rhyacophilidae (14), and Polycentropodidae (13) (Fig. 1). Nine additional families accounted for 37 species. Species records are listed for counties (Fig. 2). In descending order, the following counties contained the greater number of caddisfly species: Pocahontas (62), Randolph (54), Summers (45), Pendleton (47), Monroe (42), Kanawha (31), Jefferson (30), Braxton (28), Wayne (26), Hardy (22), Tucker (23), Hampshire (21), and Putnam (23). The remaining 36 counties contained at least one caddisfly record (Fig. 2). Numbers in parentheses at the end of each citation, corresponding with those in Figure 2, indicate the county records for the species.

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Philopotamidae

- Chimarra aterrima* Hagan; Ross (1944), USCE, NMNH. August; (8,30).
C. augusta Morse; Lago and Harris (1987), no date; (8, 27, 28, 45).
 * *C. obscura* (Walker); USCE. June; (27, 44).
C. socia Hagen; USCE, NMNH, WVBS/MU, MVU. May to August; (5, 8, 27, 44).
 * *Dolophilodes distinctus* (Walker); MVBS/MU. July, August; (7, 8, 10, 27, 47).
Wormaldia moesta (Banks); Ross (1944, as *Dolophilus*, no county record). NMNH. May to July; (9, 27, 29).

Psychomyiidae

- * *Lype diversa* (Banks); USCE, NMNH, WVBS/MU. July; (15, 29).
Psychomyia flavida Hagen; Ross (1944), USCE, NMNH, WVBS/MU. May to October; (4, 8, 44, 45).

Polycentropodidae

- * *Cyrnellus fraternus* (Banks); USCE, WVBS/MU. September; (40, 41, 44, 51).
 * *Neureclipsis crepuscularis* (Walker); USCE, WVBS/MU, MVU. June to September; (40, 44, 51, 55).
Nyctiophylax affinis (Banks); Tarter and Hill (1979). July; (27).
N. celta Denning; Morse (1972); no county record.
N. moestus Banks; Morse (1972) and Tarter and Hill (1979). June; (27).
Phylocentropus lucidus (Hagen); Tarter and Hill (1979), Stout and Stout (1989), WVU. May, June; (10, 15, 27).
 * *P. placidus* (Banks); USCE, WVBS/MU. August; (30, 51).
 * *Polycentropus cinereus* Hagen; USCE, NMNH, WVBS/MU. May to August; (7, 8, 30, 44, 51).
P. clinei (Milne); Tarter and Hill (1979), NMNH. June, July; (9, 27).
 * *P. colei* Ross; NMNH, WVBS/MU. June; (9).
 * *P. confusus* Hagen; NMNH, WVBS/MU. August; (8).
P. maculatus Banks; Tarter and Hill (1979), NMNH. June to August; (8, 9, 27).
P. pentus Ross; Tarter and Hill (1979), NMNH. June; (9, 27).

Hydropsychidae

- * *Cheumatopsyche campyla* Ross; Phillips (1982), USCE, WVBS/MU, WVDA, MVU. April to September; (1, 2, 4, 7, 10, 17, 30, 40, 42-45, 55).
 * *C. ela* Denning; Phillips (1982); WVBS/MU. June, July; (2, 7, 27, 44).
C. gracilis (Banks); Gordon (1974), Phillips (1982), NMNH. June, August; (7, 8).
 * *C. gyra* Ross; Phillips (1982), NMNH. July; (15).
 * *C. halima* Denning; Phillips (1982), WVBS/MU, MVU. June, July; (10, 27).
C. harwoodi Denning; Gordon (1974), Phillips (1982), WVDA, MVU. May to August; (6, 27, 30, 45).
 * *C. helma* Ross; Phillips (1982), WVBS/MU, WVU. June to August; (2, 27, 30).
 * *C. minuscula* (Banks); Phillips (1982), WVBS/MU, WVDA. June to August; (2, 7, 27, 29, 42, 45, 47).
C. oxa Ross; Ross (1944), Phillips (1982), WVDA. May to June; (1, 45).

- * *C. pasella* Ross; Phillips (1982), WVBS/MU. June, July; (29, 49).
- * *C. pettiti* (Banks); Phillips (1982), WVBS/MU. April to October; (15, 17, 25, 30, 32, 41, 42, 45, 47, 50, 51, 55).
- * *C. sordida* (Hagen); Phillips (1982), WVBS/MU, WVDA, WVU. June to August; (2, 5, 15, 27, 44).
- * *C. wrighti* Ross; Phillips (1982), WVBS/MU. August; (8).
- Diplectrona modesta* Banks: Ross. (1944), Tarter and Hill (1979), Phillips (1982), WVDA, WVU, RFK. May to September; (7-9, 11, 15, 17, 26-28, 38, 39, 41-43, 45, 47, 48, 51, 52, 55).
- * *Homoplectra monticola* (Flint); Phillips (1982), WVBS/MU. May; (27).
- * *Hydropsyche alhedra* Ross; Phillips (1982); WVBS/MU, WVDA. July, August; (8, 27, 46, 47).
- * *H. betteni* Ross; Phillips (1982), USCE, WVBS/MU, WVDA. June to September; (1, 15, 17, 23, 29, 38, 39, 42, 45, 47, 51, 55).
- H. bronta* Ross; Phillips (1982), Nugen and Tarter (1983) (larva); May to September; (7, 15, 23, 27, 29, 30, 41, 45, 47, 48, 52).
- H. brunneipennis* Flint and Butler; Flint and Butler (1983). June; (27).
- * *H. cheilonis* Ross; Phillips (1982); WVBS/MU, WVDA. May to October; (1, 7, 8, 42, 45).
- H. dicantha* Ross; Phillips (1982), Nugen and Tarter (1983) (larva), WVDA. June to September; (1, 2, 9-11, 15, 29, 30, 40, 49, 53, 55).
- H. hageni* Banks; Phillips (1982), Nugen and Tarter (1983) (larva), WVDA. June to September; (1-5, 42-44, 45).
- H. hoffmani* Ross; Phillips (1982), Nugen and Tarter (1983) (larva), WVDA. May to August; (1, 44).
- H. leonardi* Ross; Phillips (1982), Nugen and Tarter (1983) (larva), WVDA. June to August; (1, 44).
- H. macleodi* Flint; Nugen and Tarter (1983) (larva); (7-9, 13, 27).
- H. morosa* Hagen; Ross (1944), Phillips (1982), Nugen and Tarter (1983), WVDA. June to September. (1-6, 8, 15, 27, 30, 42, 44, 45, 52, 55).
- H. opthalmica* Flint; Flint (1965), Phillips (1982), May, August; (1, 7).
- H. orris* Ross; Phillips (1982), USCE, WVDA. June to September; (4, 9, 15, 17, 30, 39-42, 44, 45, 50).
- H. phalerata* Hagen; Phillips (1982), Nugen and Tarter (1983), WVDA, WVU. May to September; (1, 5, 7, 27, 44).
- H. scalaris* Hagen; Phillips (1982), Nugen and Tarter (1983), WVDA, WVU. May to September; (1, 5, 7, 27, 44).
- H. simulans* Ross; Phillips (1982), Nugen and Tarter (1983) (larva), USCE, WVDA. June to October; (39, 41, 42, 51, 55).
- H. slossonae* Banks; Phillips (1982), Nugen and Tarter (1983) (larva). July to September; (7, 8, 15, 27, 43, 46, 47, 54, 55).
- H. sparna* Ross; Ross (1944), Hill and Tarter (1978), Phillips (1982), Nugen and Tarter (1983) (larva). May to September; (2, 3, 7, 9, 27-30, 38, 42, 45, 47, 48, 51, 55).
- H. ventura* Ross; Phillips (1982), Nugen and Tarter (1983) (larva), May to August; (7, 11, 27-30, 44, 45).
- * *H. venularis* Banks; Phillips (1982), USCE, WVBS/MU. no date; (26, 37).
- H. walkeri* (Betten and Mosely); Phillips (1982), Nugen and Tarter (1983) (larva), WVDA. June to September (4, 6, 15, 26, 27, 29, 43-45).
- Macrostemum zebratum* (Hagen); Ross (1944, as *Macronemum*), Phillips (1982) WVBS/MU, WVDA. June to October; (1, 15, 27, 30, 42-44).
- * *Parapsyche apicalis* (Banks); Phillips (1982), WVBS/MU. June to September; (15, 27, 44).
- * *Potamyia flava* (Hagen); Phillips (1982), USCE, WVBS/MU, WVDA. June to September; (1, 17, 23, 38-42, 50, 51).

Rhyacophilidae

- * *Rhyacophila banksi* Ross; RFK, WVBS/MU. no date; (27).
R. carolina Banks; Applin and Tarter (1977, larva), Tarter and Hill (1979). June, July; (7, 9, 26, 27, 42, 43).
- * *R. carpenteri* Milne; WVBS/MU (larva); (15, 27).
R. fuscula (Walker); Ross (1944), Applin and Tarter (1977, larva). Hill and Tarter (1978). June, August, September; (8, 9, 15, 25-29, 43-46).
R. glaberrima Ulmer; Applin and Tarter (1977, larva); (15).
R. invaria (Walker); Applin and Tarter (1977, larva); (15, 27).
R. ledra Ross; Applin and Tarter (1977, larva); (51).
R. loibifera Betten; Applin and Tarter (1977, larva); (39).
R. melita Ross; Applin and Tarter (1977, larva); (15).
R. minora Banks; Roback (1975), Applin and Tarter (1977, larva). May; (7-9, 15).
R. nigrita Banks; Applin and Tarter (1977, larva); (6, 8, 15, 26, 27).
R. torva Hagen; Roback (1975), Applin and Tarter (1977, larva); (9, 43).
R. vibox Milne; Applin and Tarter (1977, larva); (15, 50-52).
R. vuphipes Milne; Applin and Tarter (1977, larva); (4).

Glossosomatidae

- * *Agapetus minutus* Sibley; WVBS/MU, MVU. July; (10).
- * *Glossosoma nigrior* Banks; WVBS/MU, MVU. July; (10).
- * *Protoptila maculata* (Hagen); WVBS/MU. August; (8).
P. palina Ross; Ross (1944, no county record), USCE, WVBS/MU. July-August; (4, 44).

Hydroptilidae

- * *Dibusa angata* Ross; USCE. June-July; (29-51).
- Hydroptila ajax* Ross; Tarter and Donahoe (1988). September; (42).
- H. armata* Ross; Tarter and Donahoe (1988). August; (4).
- H. delineata* Morton; Tarter and Donahoe (1988). August; (4).
- H. grandiosa* Ross; Tarter and Donahoe (1988), USCE. June, July, September; (2, 55).
- H. hamata* Morton; Tarter and Donahoe (1988), USCE. September; (30, 42, 44).
- H. perdita* Morton; Tarter and Donahoe (1988). August; (4).
- * *Leucotrichia pictipes* (Banks); USCE. June, July; (27, 44).
- Neotrichia vibrans* Ross; Tarter and Donahoe (1988). September; (51).
- Ochrotrichia dardeni* Harris; Tarter and Donahoe (1988). August; (4).
- O. denningi* Blickle and Morse; Blickle (1979) (no county record).
- O. graysoni* Parker and Voshell; Tarter and Donahoe (1988), USCE; September; (42, 44).
- O. tarsalis* (Hagen); Tarter and Donahoe (1988). September; (42).
- Oxyethira pallida* (Banks); Tarter and Donahoe (1988). August; (4).
- * *Palaeagapetus celsus* (Ross); RFK, NMNH., June, July; (27).
- Stactobiella delira* (Ross); Smith (1969), Tarter and Donahoe (1988). September; (6).

Phryganeidae

- Agrypnia vestita* (Walker); Hill et al. (1978), Tarter and Hill (1979). April to October; (1, 10, 15, 17, 26-28, 41, 42, 44, 45, 47).

- * *Banksiola crotchi* Banks; WVBS/MU, MVDA. July; (23).
B. dossuaria (Say); Hill et al. (1978), Stout and Stout (1989), RFK, USNM, WVU. May to July; (9-11, 15, 27, 45, 53).
Oligostomis pardalis (Walker); Stout and Stout (1989). June; (15).
Phryganea sayi Milne; Hill et al. (1978), WVDA. July to October; (1, 15, 17, 23, 25, 41, 42, 45-47, 51).
Ptilostomis ocellifera (Walker); Hill et al. (1978), Tarter and Hill (1979), Stout and Stout (1989). June to September; (2, 4, 5, 7, 10, 15, 47).
P. postica (Walker); Hill et al. (1978), WVDA. August; (2).
P. semifasciata (Say); Hill et al. (1978), Tarter and Hill (1979), USNM, WVDA. May to September; (4, 8, 9, 15, 17, 27, 44).

Brachycentridae

- Brachycentrus appalachia* Flint; Flint (1984). May; (15).
B. lateralis (Say); Flint (1984). May; (4).
B. nigrosoma (Banks); Flint (1984). May; (4).
 * *B. numerosus* (Says); WVBS/MU. April; (8, 15).
B. solomoni Flint; Flint (1984). April; (8).
 * *Micrasema scotti* Ross; WVBS/MU, NMNH. May; (8).

Limnephilidae

- Frenesia difficilis* (Walker); Tarter and Hill (1980), Stout and Stout (1989), WVU. May, September, November; (11, 15).
 * *Goera calcarata* Banks; WVBS/MU, NMNH. August; (8).
Goerita betteni Ross; Ross (1962, no county record), Tarter and Hill (1980). June, July; (27).
Hydatophylax argus (Harris); Hill and Tarter (1978), Tarter and Hill (1980), WVDA, WVU. June, July; (1, 15, 27, 29, 43, 45).
Ironoquia kaskaskia (Walker); Hill and Tarter (1978), Tarter and Hill (1980), WVDA. September; (15, 51).
I. punctatissima (Walker); Hill and Tarter (1978), Tarter and Hill (1980), NMNH, WVDA. June, July, September, October; (6, 9, 15, 17, 23, 26, 41, 42, 45, 47, 51).
Leptophylax gracilis Banks; Hill and Tarter (1978), WVDA. June to September; (45).
Limnephilis indivisus Walker; Hill and Tarter (1978), Tarter and Hill (1980), WVDA, WVU. June, September; (1, 15, 30, 45).
L. moestus Banks; Hill and Tarter (1978), Tarter and Hill (1980), Stout and Stout (1989), NMNH, WVU. May to August; (9, 10, 15, 27).
L. ornatus Banks; Tarter and Hill (1980), WVDA. June, July; (41, 45).
L. rhombicus (Linnaeus); Tarter and Hill (1980), WVBS/MU. May; (1).
L. submonilifer Walker; Hill and Tarter (1978), Tarter and Hill (1980), WVDA, WVU. June, August, October; (10, 11, 15, 41, 49).
Nemotaulis hostilis (Hagen); Hill and Tarter (1978), Tarter and Hill (1980), Stout and Stout (1989), WVDA, WVU. August; (9, 15, 27).
Neophylax anigua Ross; Tarter and Hill (1980), WVDA. September; (15).
N. concinnus McLachlan; Hill and Tarter (1978), WVDA, MVU. September, October; (10, 15, 41, 47).
N. consimilis Betten; Hill and Tarter (1978), Tarter and Hill (1980), WVDA, WVU. September, October; (15, 30, 45, 49).

- N. stollus* Ross; Hill and Tarter (1978), NMNH. October: (8).
N. wigginsii Sykora and Weaver; Tarter and Hill (1980), WVDA. September: (15).
Platycentropus radiatus (Say); Hill and Tarter (1978), Tarter and Hill (1980), WVDA, WVU. May to October: (5, 7011, 27, 44, 45, 47).
Pseudostenophylax sparsus (Banks); Hill and Tarter (1978), Tarter and Hill (1980), RFK, NMNH, WVDA, WVU. May to July: (1, 6, 7, 9-11, 17, 27, 34, 41).
P. uniformis (Betten); Hill and Tarter (1978), Tarter and Hill (1980), RFK, NMNH, WVU. May to July: (8, 9, 11, 27, 43, 44).
Pycnopsyche circularis (Provancher); Hill and Tarter (1978), WVDA. September: (41-45).
P. divergens (Walker); Hill et al. (1977), Hill and Tarter (1978), Tarter and Hill (1979, 1980), WVBS/MU. July to August: (26, 27).
P. gentilis McLachlan; Hill and Tarter (1978), Tarter and Hill (1980), WVDA, WVU, September, October: (4, 8, 10, 15, 18, 29, 45, 47, 49, 51).
P. guttifer (Walker); Hill and Tarter (1978), NMNH. October: (8).
P. indiana (Ross); Hill and Tarter (1978), NMNH. October: (8).
P. lepida (Hagen); Ross (1944), Betten (1950), Hill and Tarter (1978), Tarter and Hill (1979), WVDA, WVU. June to October: (15, 23, 26, 27, 41, 45, 47, 49, 51).
P. luculenta (Betten); Hill and Tarter (1978), Tarter and Hill (1979, 1980), WVDA, WVU. July to October: (8, 10, 15, 26-28, 30, 45, 47).
P. scabripennis (Rambur); Ross (1944), Hill and Tarter (1978), Tarter and Hill (1979, 1980), WVDA, WVU. June to October: (3, 8, 10, 11, 15, 16, 27, 29, 30, 41, 42, 45-47, 49, 51).
P. subfasciata (Say); Hill and Tarter (1978), Tarter and Hill (1980), WVDA. August to October: (1, 15, 45, 49).

Lepidostomatidae

- Lepidostoma griseum* (Banks); Tarter and Hill (1979), WVBS/MU. August: (27).
 * *L. pictile* (Banks); Weaver (1988), WVBS/MU. May: (8, 9).
L. sackeni (Banks); Tarter and Hill (1979), WVBS/MU. August: (27).
 * *L. stylifer* Flint and Wiggins; WVBS/MU. NMNH. May: (8).
L. togatum (Hagen); Weaver (1988). April: (8).
L. vernale (Banks); Weaver (1988). April: (1).
 * *Theliopsyche melas* Edwards; WVBS/MU. June: (8).

Odontoceridae

- Psilotreta labida* Ross; Parker and Wiggins (1987). June: (8).
P. rossi Wallace; Parker and Wiggins (1987), NMNH. July: (27).

Molannidae

- Molanna blenda* Sibley; Tarter and Hill (1979), WVBS/MU. August: (27).

Helicopsychidae

- Helicopsyche borealis* (Hagen); Ross (1944) (no date or county record), USCE, NMNH, WVBS/MU. June, July: (4, 8, 27, 44).

Leptoceridae

Ceraclea cancellata (Betten); Glover and Tarter (1989), USCE, WVDA. June to August; (1, 6, 8, 21, 22, 27, 30, 39, 40-42, 44, 45, 47, 51).

C. diluta (Hagen); Glover and Tarter (1989). July; (27).

C. flava (Banks); Glover and Tarter (1989), USCE. June, July; (29, 40, 41).

C. maculata (Banks); Glover and Tarter (1989), USCE, WVDA, WVU. June to September; (1, 11, 22, 30, 39, 40-42, 44, 45, 51).

C. neffi (Resh); Glover and Tarter (1989), WVDA, WVU. June to August; (8, 27, 30, 44).

C. ophioderus (Ross); Glover and Tarter (1989). June, August; (44).

C. slossonae (Banks); Glover and Tarter (1989), WVBS/MU. No date; (4).

C. tarsipunctata (Vorhies); Glover and Tarter (1989), USCE, WVDA. June, July; (1, 30, 42, 44, 51).

C. transversa (Hagen); Glover and Tarter (1989), USCE, WVDA. June to September; (27, 29, 30, 40, 42, 44, 45).

C. wetzeli (Ross); Glover and Tarter (1989), NMNH. May; (8).

Leptocerus americanus (Banks); Glover and Tarter (1989). July; (32).

Mysticides sepulchralis (Walker); Yamamoto and Wiggins (1964), Glover and Tarter (1989). July, August; (2, 4, 30).

Nectopsyche candida (Hagen); Glover and Tarter (1989), USCE. July; (40).

N. exquisita (Walker); Glover and Tarter (1989), USCE, WVDA, WVU. June to August; (1, 8, 30, 40, 42, 44, 45, 50).

N. pavidia (Hagen); Glover and Tarter (1989), USCE, WVDA. July, August; (1, 10, 30, 40, 51).

Oecetis avara (Banks); Ross (1944), Glover and Tarter (1989), USCE, NMNH, WVDA. May to September; (1, 6-8, 29, 30, 42, 44, 45).

O. cinerascens (Hagen); Glover and Tarter (1989), WVDA. July to October; (1, 15, 40, 51).

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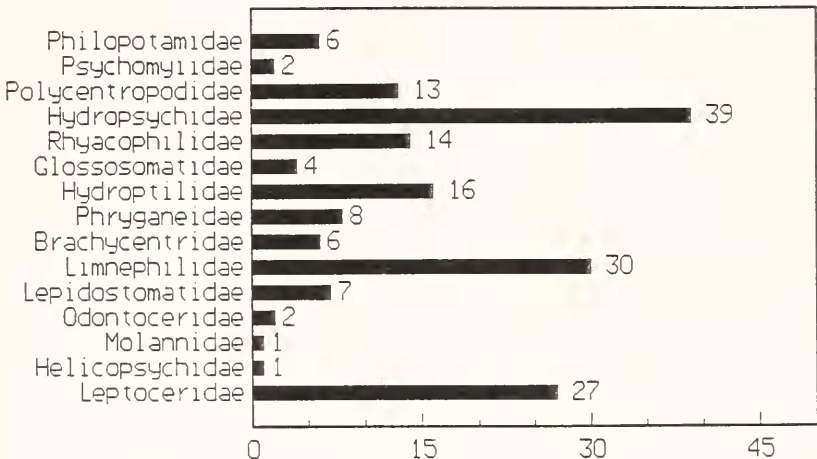


Figure 1. West Virginia caddisfly families with number of species.

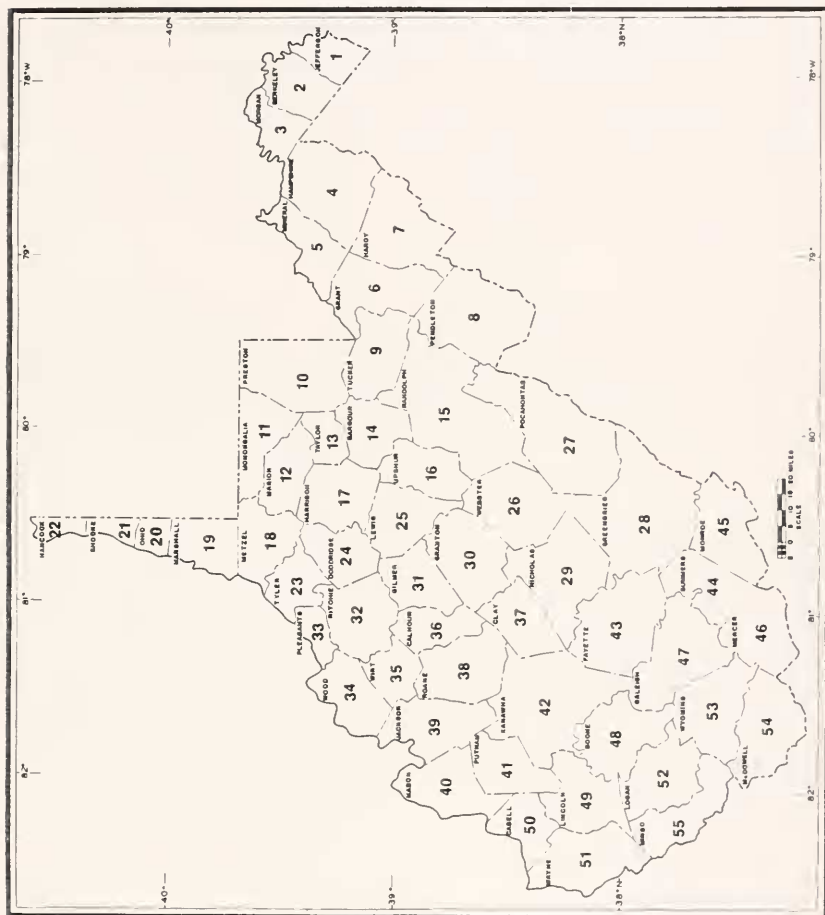


Figure 2. West Virginia map showing sampling stations of caddisflies by counties.

- O. inconspicua* (Walker); Glover and Tarter (1989), USCE, WVDA, WVU. June to September; (1, 4, 6-8, 10, 11, 13, 15, 17, 23, 27, 29, 30, 31, 40-42, 44, 45, 47, 48, 50, 54).
O. nocturna Ross; Glover and Tarter (1989), USCE, WVBS/MU. June, July, September; (6, 8, 27, 40, 41, 42, 44, 51).
O. persimilis (Banks); Glover and Tarter (1989), WVDA. June to August; (27, 30, 39, 44, 50).
Setodes incerta (Walker); Glover and Tarter (1989), WVDA. June to August; (44).
Trienodes flavescens Banks; Glover and Tarter (1989). July, August; (17, 44, 45).
T. ignitus (Walker); Glover and Tarter (1989). April, June; (50, 51).
T. injustus (Hagen); Glover and Tarter (1989), WVDA. May to August; (15, 41, 42, 44).
T. marginatus Sibley; Glover and Tarter (1989), WVDA. July, August; (44).
T. pernus Ross; Glover and Tarter (1989), WVBS/MU. June; (44).
T. tardus Milne; Glover and Tarter (1989), WVDA. September; (41).

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